Amendments to and Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (currently amended): A method for treating a patient with chronic pain, comprising:

identifying a patient experiencing sensations of chronic peripheral pain, wherein chronic peripheral pain includes chronic neuropathic pain, failed back surgery syndrome, arachnoiditis, occipital neuralgia, peripherial pelvic pain, cardiac pain and back pain;

providing at least one leadless stimulator having at least two electrodes;

implanting the at least one leadless stimulator adjacent to at least one peripheral nerve of the patient, said peripheral nerve being responsible at least in part ~~responsible~~ for the sensations of chronic pain experienced by the patient ~~in a region experiencing chronic pain~~;

providing operating power to the at least one leadless stimulator;

using at least one external appliance to transmit stimulation parameters to the at least one leadless stimulator;

receiving and storing the stimulation parameters within the at least one leadless stimulator;

generating stimulation pulses within the at least one leadless stimulator in accordance with the stimulation parameters; and

delivering the stimulation pulses from the electrodes of the at least one leadless stimulator to the at least one peripheral nerve of the patient for the purpose of reducing the sensations of chronic peripheral pain experienced by the patient ~~nerves adjacent to the at least one stimulator~~;

wherein the leadless stimulator has a size and shape suitable for placement of the electrodes adjacent to the at least one peripheral nerve.

Claim 2 (original): The method of Claim 1 wherein the stimulation pulses are delivered at less than about 1-10 mA.

Claim 3 (original): The method of Claim 2 wherein the stimulation pulses are delivered at less than about 100 to 150 Hz.

Claim 4 (original): The method of Claim 1 wherein the at least one peripheral nerve comprises at least one of an ulnar nerve, an ulnar nerve branch, a musculocutaneous nerve, a musculocutaneous nerve branch, a median nerve, a median nerve branch, a radial nerve, a radial nerve branch, a medial cutaneous nerve, an intercostobrachial nerve, a common peroneal nerve, a common peroneal nerve branch, a posterior cutaneous nerve, a posterior cutaneous nerve branch, a sciatic nerve, a sciatic nerve branch, a sural nerve, a sural nerve branch, a saphenous nerve, a saphenous nerve branch, an obturator nerve, an obturator nerve branch, a femoral nerve, a femoral nerve branch, a lateral cutaneous nerve, a lateral cutaneous nerve branch, an intercostal nerve, an intercostal nerve branch, a greater occipital nerve, a lesser occipital nerve, and a third occipital nerve.

Claim 5 (original): The method of Claim 4 wherein the stimulation pulses are delivered at less than about 1-10 mA.

Claim 6 (original): The method of Claim 5 wherein the stimulation pulses are delivered at less than about 100 to 150 Hz.

Claim 7 (currently amended): The method of Claim 1 wherein the chronic pain is located in one or both upper limbs, and the at least one <u>leadless</u> stimulator is implanted adjacent to at least one nerve fiber of an ulnar nerve, an ulnar nerve branch, a musculocutaneous nerve, a musculocutaneous nerve branch, a median nerve, a median nerve branch, a radial nerve, a radial nerve branch, a medial cutaneous nerve, and an intercostobrachial nerve.

Claim 8 (original): The method of Claim 1 wherein the chronic pain is located in one or both lower limbs, and the at least one stimulator is implanted adjacent to at least one nerve fiber of a common peroneal nerve, a common peroneal nerve branch, a sciatic nerve, a sciatic nerve branch, a saphenous nerve, a saphenous nerve branch, a posterior cutaneous nerve, a posterior cutaneous nerve branch, a sural nerve, a sural nerve branch, an obturator nerve, an obturator nerve branch, a femoral nerve, a femoral nerve branch, a lateral cutaneous nerve, and a lateral cutaneous nerve branch.

Claim 9 (original): The method of Claim 1 further comprising

providing at least one sensor;

using the at least one sensor to sense a physical condition; and

determining the stimulation parameters based upon the sensed condition.

Claim 10 (currently amended): The method of Claim 9 wherein the at least one sensor is a part of the leadless stimulator.

Claim 11 (currently amended): The method of Claim 1 further comprising providing and implanting more than one leadless stimulator.

Claim 12 (withdrawn): A method for treating a patient with chronic pain, comprising the steps of:

providing at least one means for stimulating tissue;

implanting the at least one stimulating means near at least one peripheral nerve at least in part responsible for sensations in a region experiencing chronic pain;

providing operating power to the at least one stimulating means;

transmitting stimulation parameters to the at least one stimulating means using at least one external appliance;

receiving and storing the stimulation parameters;

generating stimulation pulses in accordance with the stimulation parameters; and

delivering the stimulation pulses to nerves adjacent to the at least one stimulating means;

wherein the stimulating means has a size and shape suitable for placement near the at least one nerve and has leads up to 150 mm long.

Claim 13 (withdrawn): The method of Claim 12 wherein the body of the stimulator is no more than 150 mm from the at least one nerve to be stimulated.

Claim 14 (withdrawn): The method of Claim 13 wherein the at least one peripheral nerve comprises at least one of an ulnar nerve, an ulnar nerve branch, a median nerve, a median nerve branch, a radial nerve, a radial nerve branch, a common peroneal nerve, a common peroneal nerve branch, a sciatic nerve, a sciatic nerve branch, a saphenous nerve, a saphenous nerve branch, an intercostal nerve, and an intercostal nerve branch.

Claim 15 (currently amended): A method for treating a patient with chronic pain, comprising:

identifying a patient experiencing sensations of chronic peripheral pain, wherein chronic peripheral pain includes chronic neuropathic pain, failed back surgery syndrome, arachnoiditis, occipital neuralgia, peripherial pelvic pain, cardiac pain and back pain;

providing at least one leadless stimulator having at least two electrodes;

providing at least one sensor;

implanting the at least one stimulator adjacent to at least one peripheral nerve of the patient, said peripheral nerve being responsible at least in part ~~responsible~~ for the sensation of chronic peripheral pain experienced by the patient ~~in a region experiencing chronic pain~~;

providing operating power to the at least one stimulator;

using the sensor to sense a physical condition;

determining stimulation parameters based upon the sensed condition;

generating stimulation pulses within the at least one stimulator in accordance with the stimulation parameters; and

delivering the stimulation pulses from the electrodes of the at least one stimulator to the at least one peripheral nerve of the patient for the purpose of reducing the sensations of chronic peripheral pain experienced by the patient ~~nerves adjacent to the at least two electrodes~~;

wherein the stimulator has a size and shape suitable for placement of the electrodes adjacent to the at least one peripheral nerve of the patient.

Claim 16 (original): The method of Claim 15 wherein the at least one sensor is a part of the stimulator.

Claim 17 (original): The method of Claim 15 wherein the stimulation parameters are determined using at least one external appliance.

Claim 18 (original): The method of Claim 15 wherein providing power to the at least one stimulator comprises receiving power from at least one external appliance.

Claim 19 (original): The method of Claim 18 wherein providing power to the at least one stimulator further comprises storing the power received from the at least one external appliance.

Claim 20 (original): The method of Claim 15 further comprising providing and implanting more than one stimulator.

Claim 21 (original): The method of Claim 15 wherein the sensor senses at least one of electrical activity of a nerve, electrical activity of the brain, muscle activity, and patient mobility.

Claim 22 (original): The method of Claim 15 wherein the sensor senses at least one of sympathetic discharge, medication level, neurotransmitter level, hormone level, cytokine level, neuropeptide level, endorphin level, enzyme level, level of a bloodborne substance, level of a substance in the cerebrospinal fluid, and level of a substance in the local interstitial fluid.

Claim 23 (withdrawn): A system for treating a patient with chronic pain, comprising:

at least one leadless stimulator having at least two electrodes;

means for implanting the at least one stimulator adjacent to at least one peripheral nerve at least in part responsible for sensations in a region experiencing chronic pain;

means for providing operating power to the at least one stimulator;

at least one external appliance used to transmit stimulation parameters to the at least one stimulator;

means for receiving and storing the stimulation parameters; and

means for generating stimulation pulses in accordance with the stimulation parameters;

wherein the at least two electrodes deliver the stimulation pulses to nerves adjacent to the at least one stimulator; and

wherein the stimulator has a size and shape suitable for placement of the electrodes adjacent to the at least one peripheral nerve.

Claim 24 (withdrawn): The system of Claim 23 further comprising:

at least one sensor for sensing a physical condition; and

means for determining the stimulation parameters based upon the sensed condition.

Claim 25 (withdrawn): The system of Claim 24 wherein the sensor includes means for sensing at least one of electrical activity of a nerve, electrical activity of the brain, muscle activity, and patient mobility.

Claim 26 (withdrawn): The system of Claim 24 wherein the sensor includes means for sensing at least one of sympathetic discharge, medication level, neurotransmitter level, hormone level, cytokine level, neuropeptide level, endorphin level, enzyme level, level of a bloodborne substance, level of a substance in the cerebrospinal fluid, and level of a substance in the local interstitial fluid.